STATE OF CALIFORNIA
Department of General Services - Office of Procurement
PURCHASE ORDER

Form GSOP 1-PIN (04/98)

Purchase Order No.	Rev.	Date
62099		6/30/2008

Supplier No.	Solicitation No.	Delivery Date	FOB Point	Invoice Terms
810606	56814	As Specified	Destination	

WAUSAU EQUIPMENT COMPANY
1905 S. MOORLAND RD.
NEW BERLIN, WI 53151-2321
Attn: JOHN LEMKE

Phone: 262-784-6066

Ship To
DEPT OF TRANSPORTATION
EQUIPMENT RECEIVING
1920-35TH STREET
SACRAMENTO, CA 95816
Attn: EQUIPMENT RECEIVING

Charge To
CALTRANS-ACCTG/OFC B-15
D32 EQUIPMENT SERVICE CTR
PO BOX 160048
SACRAMENTO, CA 95816

Agency Billing	Agency Purchase Estimate	Purchase Estimate	Revision
60063	32-12-5234	66864	4

Agency Contact	Phone	Date Received
BILL MUELLER	916-227-9616	

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension

THE GENERAL PROVISIONS FOR NON-IT COMMODITIES ARE HEREBY INCORPORATED BY REFERENCE. THESE GENERAL PROVISIONS CAN BE OBTAINED BY PHONING (916) 375-4400 OR BY ACCESSING OUR WEBSITE AT:

www.documents.dgs.ca.gov/pd/modellang/GPnonIT0407.pdf

THE FOLLOWING INFORMATION IS PROVIDED FOR AGENCY USE ONLY:

PRIME CONTRACTOR: NS

APPLICATION OF DVBE INCENTIVE RESULTED IN AWARD: NO

FUNDING

THIS CONTRACT IS FUNDED OVER MULTIPLE FISCAL YEARS AND IS CONTINGENT UPON AVAILABILITY OF FUNDS FROM THOSE FISCAL YEARS. THE STATE RESERVES THE RIGHT TO CANCEL THIS CONTRACT AT ANY TIME PRIOR TO COMPLETION DUE TO LACK OF FUNDING. FOR MORE INFORMATION, PLEASE REFER TO THE ATTACHED GENERAL PROVISIONS, SECTION 22 - TERMINATION FOR NON-APPROPRIATION OF FUNDS.

Sales and/or use tax to be extra unless noted above

Buyer	Phone	BOC Number
TIM PATTON	916-375-4412	

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	Revision	Date	Supplier No.	Supplier Name
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension
1	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	586,768.0000	586,768.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7003975	7003975/28

DELIVER THIS UNIT BY 12/1/2008

Deliver to: Cal-Trans
1920 35th St.
Sacramento, CA 95816

Training & Final Delivery Location
Caltrans Shop 8
320 South Sierra Way
San Bernadino, CA 92408

Brand: WAUSAU
Model: DF3500

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension
2	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	584,268.0000	584,268.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005038	7005038/23

Option No. 1 : Directional Loading Chute
Option No. 2 : Left-Hand Cast

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
981 North Beale Rd.
Marysville, CA 95901

Brand: WAUSAU
Model: DF3500

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	*Revision*	*Date*	*Supplier No.*	*Supplier Name*
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*
3	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	584,268.0000	584,268.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005039	7005039/23

Option No. 1 : Directional Loading Chute
Option No. 2 : Left-Hand Cast

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
981 North Beale Rd.
Marysville, CA 95901

Brand: WAUSAU
Model: DF3500

4	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	586,768.0000	586,768.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005040	7005040/23

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
981 North Beale Rd.
Marysville, CA 95901

Brand: WAUSAU
Model: DF3500

STATE OF CALIFORNIA
Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	*Revision*	*Date*	*Supplier No.*	*Supplier Name*
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*
5	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	584,268.0000	584,268.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005614	7005614/30

Option No. 1 : Directional Loading Chute
Option No. 2 : Left-Hand Cast

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
1603 South B St.
Stockton, CA 95206

Brand: WAUSAU
Model: DF3500

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*
6	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	584,268.0000	584,268.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005615	7005615/30

Option No. 1 : Directional Loading Chute
Option No. 2 : Left-Hand Cast

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
1603 South B St.
Stockton, CA 95206

Brand: WAUSAU
Model: DF3500

STATE OF CALIFORNIA
Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	Revision	Date	Supplier No.	Supplier Name
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension
7	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	584,268.0000	584,268.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005616	7005616/23

Option No. 1 : Directional Loading Chute
Option No. 2 : Left-Hand Cast

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
1603 South B St.
Stockton, CA 95206

Brand: WAUSAU
Model: DF3500

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension
8	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	584,268.0000	584,268.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005617	7005617/30

Option No. 1 : Directional Loading Chute
Option No. 2 : Left-Hand Cast

DELIVER THIS UNIT BY 8/1/2009

Deliver to: Cal-Trans
1603 South B St.
Stockton, CA 95206

Brand: WAUSAU
Model: DF3500

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	*Revision*	*Date*	*Supplier No.*	*Supplier Name*
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*
9	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	586,768.0000	586,768.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005104	7005104/30

DELIVER THIS UNIT AFTER 8/1/2009 AND BEFORE 12/15/2009

Deliver to: Cal-Trans
1603 South B St.
Stockton, CA 95206

Brand: WAUSAU
Model: DF3500

10	1	EA	3825-283-0718-8	SNOWPLOW ROTARY SELF-CONTAINED	586,768.0000	586,768.00

Rotary Snow Blower, Self-Contained, 3500 tons per hour in accordance with bid specification #66864-17103-027-072 of 10 pages.

Maint. Class	ID No.	EBR/Shop
17103	7005105	7005105/30

DELIVER THIS UNIT AFTER 8/1/2009 AND BEFORE 12/15/2009

Deliver to: Cal-Trans
1603 South B St.
Stockton, CA 95206

Brand: WAUSAU
Model: DF3500

PO Miscellaneous Charges and Discounts	Dollar Value
BATCH ADJUSTMENT (CHARGE)	70.00

Total Value: 5,852,750.00

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	*Revision*	*Date*	*Supplier No.*	*Supplier Name*
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*

DECREASING / INCREASING PURCHASE QUANTITIES:
The State reserves the right to decrease the purchase quantity by 10% less units or increase the purchase quantity by up to 30% more units within 90 days of bid award. The increased quantity purchased shall be at the awarded bid price.

ATTACHMENTS
THE FOLLOWING ATTACHED DOCUMENTS ARE PART OF THIS PURCHASE ORDER:

1. SPECIFICATION #17103-027-081T (14 PAGES)
2. ADMINISTRATIVE PROCEDURES #17103-027-081A (13 PAGES)
3. OPTIONS 17103-027-081 (1 PAGE)
4. QUESTIONNAIRE FOR ROTARY SNOW BLOWER 17103-027-081 (6 Pages)
5. IN SHOP WARRANTY AGREEMENT (4 PAGES)

F.O.B. DESTINATION
For the purpose of this purchase order, only F.O.B. Destination will be accepted.

DELIVERY CONTACT
Contact for Delivery and Automotive Inspector: Caltrans Equipment Parts Manager, (916) 227-9636

REGISTRATION
Each unit shall be registered as follows: State of California
Department of Transportation/Equipment
34th Street and Stockton Boulevard
P.O. Box 160048
Sacramento, CA 95816

FEDERAL CERTIFICATION
Final stage manufacturers shall be certified by National Highway Traffic Safet Administration and be registered to manufacture or alter vehicles in accordanc with the code of Federal Regulation, Title 49, Parts 567-568.

CALIFORNIA VEHICLE CODE
Supplier shall comply with all provisions of the California Vehicle Code pertaining to occupational licensing requirements for vehicle dealers, manufacturers, etc.

CHANGE ORDERS
This Purchase Order may be amended, modified, or terminated at any time by mutual agreement of the parties in writing. Change orders amending, modifying or terminating the Purchase Order, including any modifications of the compensation payable, may be issued only by the State Procurement Officer. All such change orders shall be in writing and issued only upon written concurrence of the supplier. Termination, as that term is used in this section, does not include termination for default of the supplier.

FEDERAL EXCISE TAX
A Federal Excise Tax Exemption Certificate shall accompany the purchase order resulting from this invitation for bid.

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	*Revision*	*Date*	*Supplier No.*	*Supplier Name*
62099		6/30/2008	810606	WAUSAU EQUIPMENT COMPANY

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*

CALIFORNIA TIRE FEE ACT

A fee of $1.75 per tire is added to the purchase order to cover the costs imposed by the California Tire Fee Act (California Public Resources Code Section 42885 et. seq.). (SEE BATCH ADJUSTMENT ABOVE)

AWARD DATE

This purchase order is being awarded on July 25, 2008 pursuant to Government Code Section 13332.17. Any encumbrances made pursuant to this purchase order shall be construed to have been made on the last day of the preceding fiscal year.

STATE CONTRACT AND PROCUREMENT REGISTRATION SYSTEM

This Purchase order has been registered into the state contact and procurement registration system (https://www.scprs.dgs.ca.gov/). The registration number is 26600708324123.

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
DIVISION OF EQUIPMENT

ITEM NO.	UNIT	CAB	TRANS	ENG	CAP	C.A.	F.A.	R.A.
17103	EA	REG		D	3,500			

SPECIFICATION NUMBER: 17103-027-081

SPECIFICATIONS FOR: ROTARY SNOW BLOWER 3,500 TPH.

PURCHASE ESTIMATE NUMBER: 32-12-5234

It is the intent of this specification to describe the minimum requirements for a 3,500 tons per hour capacity self contained rotary snow blower, cab frame mounted and suitable for use on public roads and highways during storms and for road opening operations.

The unit shall be the manufacturer's standard production models and shall be modified to meet these specifications. It shall be equipped with all of the manufacturer's standard equipment and accessories which are part of the standard published literature.

The unit shall comply with Caltrans Equipment Quality Standards for Electrical, Welding, Paint and Coatings as defined at: http://www.dot.ca.gov/hq/eqsc/qualstand.htm.

Unless otherwise stated, the requirements of the specification shall have precedence over any drawings provided; and the drawings shall have precedence over the completed questionnaire and standard factory specifications or literature.

The equivalency of any referenced item listed on the drawings or in the specification shall be determined by the Division of Equipment Specification Engineer. Only technical changes authorized by Specification Engineer in writing will be accepted. Technical changes made by any other Division of Equipment, Caltrans or State employees will not be accepted. All changes to this contract must be done in writing.

TECHNICAL SPECIFICATIONS

1. CAPACITY: The rotary snow blower shall have a minimum output capacity of 3,500 tons per hour while casting snow (Both Left and Right) for a minimum of 40 feet. The snow blower shall perform at altitudes to 9,000 feet. Rocks up to six (6) inches in any straight-line dimension shall not damage the unit. The cut width shall be 102 inches minimum, to 112 inches maximum.

2. ENGINE: The rotary snow blower shall be equipped with single or dual diesel engine(s), four (4) cycle, turbo charged and liquid cooled. The single engine unit shall be rated for continuous duty at a minimum of 800, SAE1349 GROSS BRAKE horsepower for propelling the chassis and operating the rotary snow blower. The dual engine snow blower shall have an auxiliary engine that is rated for a minimum continuous duty of 500, SAE1349 GROSS BRAKE horsepower and a chassis engine rated for on highway use with a minimum 380, SAE1349 GROSS BRAKE horsepower.

All engines shall be certified for sale and use by the California Air Resources Board (without credits) in compliance to the requirements of this specification and this application. The single engine unit shall be tier 2 certified. The dual engine unit, auxiliary engine shall be tier 3 certified. This certification will be provided before award is made.

The engine(s) shall be a current production unit, approved for this application by the engine manufacturer prior to award. The bidder shall provide evidence of continuous duty certification before award is made.

The engine(s) will be equipped with the following:

a. A cold weather starting aid capable of starting the engine in minus 10° F temperatures will be installed and approved by the engine manufacturer.

b. Replaceable, full-flow, element type oil filter.

c. By-pass oil filtration system. The by-pass filter system should be the spin-on type. As an alternate, the engine manufacturer's combined system may be acceptable.

d. An air cleaner system of the correct capacity recommended by the filter manufacturer and engine manufacturer to match the demand of the engine and an air restriction gauge. The restriction gauge shall be mounted in the engine compartment where it can be easily viewed when performing a pre-op inspection and red lined for replacement or servicing as recommended by the engine manufacturer (Ref: Filter Minder Air Restriction Gauge, Model No. 3781-325, or comparable). The gauge must hold and maintain the highest reading until reset. The air cleaner connections shall be dustproof and waterproof.

e. A key start and shutoff.

f. The exhaust system(s) shall be designed and installed such that when the rotary snow blower is operated in high snow embankment conditions, the exhaust will be directed up and away (to the rear) from the operator's cab. If the exhaust discharge is vertical, a rain cap shall be installed if allowed by the engine manufacturer.

g. The snow blower shall be equipped with a 110 VAC block heater(s). The electrical plug in shall be easily accessible from the outside of the engine housing and be water proof.

h. The engine(s) shall have an audible and visible warning for high coolant temperature, low coolant level, and low oil pressure, as applicable for liquid cooled engines.

i. The engine(s) will be equipped with the proper sized fuel filters with built in water separator(s) with visible water levels and drains.

NOTE: All gauges and controls shall be marked/identified for function and use in English. The markings shall be explicit, legible, and permanent. International symbols may be used to supplement (not in lieu of or predominate over) the above.

Any precautionary signs shall be similarly marked.

All gauges and controls shall be suitably lighted with an infinitely variable brightness control from full bright to off.

All gauges and controls shall be water resistant.

The following gauges or electronic instrumentation, (both engines if so equipped) shall be furnished and installed in the cab and be easily visible to the operator. An LCD display screen for some or all of the instrumentation will be acceptable in lieu of mechanical gauges.

j. Hourmeter, Hobbs Model 80010, or comparable.

k. Voltmeter.

l. Fuel gauge.

m. Oil pressure gauge.

n. Tachometer.

o. Coolant Temperature gauge.

p. Engine throttle with easy operator access while in the normal operating position.

3. COOLING SYSTEM: The engine(s) shall be equipped with the maximum capacity radiator(s) available from the rotary blower manufacturer and approved by the engine manufacturer. The radiator(s) shall be equipped with a deaeration system and a radiator fan as recommended by the engine and snow blower manufacturer. A cooling system conditioner shall be installed to filter the water, and control corrosive action. The cooling system shall be adequate when the unit is operating under full load at 70° F ambient temperature with all hoods, doors, and etc., closed.

The radiator(s) shall be equipped with a low coolant level warning light in case the cooling liquid becomes low (Ref. Robertshaw Model 613 NLU or comparable). This warning light shall be mounted in clear view of the operator.

4. TRANSMISSION: The unit shall be equipped with a hydrostatic or torque converter type drive system.

The unit shall be capable of blowing snow from ½ to a minimum 20 mph.

The unit shall be geared to provide a minimum top road speed of 22 mph up a 5% grade at a minimum of 5,000 feet elevation. The maximum speed shall be within safe limits as determined by the manufacturer, but, in no instance, shall the maximum speed exceed 55 mph on level ground.

The unit shall have a minimum speed of 1.0 mph in reverse, on level ground.

The unit shall be full time all wheel drive. (There will not be any provision for the operator to operate the unit in two (2) wheel drive).

5. AXLE/SPRING: The unit shall be equipped with axles and springs, front and rear, of ample capacity to support the vehicle under the most adverse use or operating conditions anticipated. The spring pack shall have replaceable bushings. The axles rated capacity shall meet or exceed the maximum loads imposed with the rotary head locked in the up (dead head) position and the unit operating at its maximum road speed with full fuel tanks. An operator controlled no-spin traction device is required in the front axle. The vender will supply documentation on the front and rear axles with capacities and the anticipated axle weights of the completed unit with the bid.

6. BRAKES: All units shall be equipped with service brakes and parking brakes. The service brakes shall comply with performance requirements specified in Department of Transportation Motor Carrier Safety Regulations, Section 393.52 and parking brake to Department of Transportation Motor Carrier Safety Regulations, Section 393.41. Additionally, the service brakes shall control and hold, without wheel rotation, the rotary snow blower headed up or down grade with the blower head locked in the up (dead head) position on a 10% grade. The parking brakes shall be adequate to hold the rotary snow blower headed either up or down grade with the blower head locked in the up (dead head) position without wheel rotation on a 10% grade. For test conditions, the surface of the grade should be paved and free from snow, ice, and loose material.

The brakes shall be power assisted or air brakes with brakes at all four (4) wheels. If air brakes are furnished, an air drier must be installed (Ref. B/W Model AD-1P Air Drier or comparable).

7. STEERING SYSTEM: The snow blower shall have power assisted, synchronized, all wheel steering, controlled from the operators position. The steering will provide the ability to legally drive the blower from the operators position. Four wheel steering shall be electronically coordinated through the standard steering wheel. A selector switch within easy reach of the operator will provide the option of front steer only, crab steer, or

coordinated front/rear steer. Additionally, a single axis joystick or electronic control will be provided for controlling the rear steering.

The system shall include safety provisions for dampening of all wheel steer effects at higher speeds, but it shall also allow full operation while the vehicle is moving at lower speeds. An indicator shall be provided in the cab to display mode selected and rear wheel position. Also for safety, there shall be a mechanical linkage maintained at all times between the steering wheel in the cab and the front axle to assure the ability to control the vehicle in the event of hydraulic or electrical system failure. Safety dampening of all wheel steer effects shall be related to the vehicle speed.

Due to the conditions under which the vehicle will be operated, the ability of this equipment to operate safely at all speeds while maximizing maneuverability, and provide the operator the ability to select the desired mode of operation "on the go" an electronically controlled rear axle steering system which operates in conjunction with the mechanically controlled front wheel steering system is required. This system must consist of the following components and operating features:

A. Front Steer: When in the front mode the vehicle behaves like a conventionally steered vehicle. In this mode, the rear axle lock remains in the locked position and the rear axle does not steer. Use this mode when enhanced maneuverability is not needed.

B. Coordinated Steer: This mode gives the operator the tightest turning radius of any of the available modes. When the front axle is steered, the rear axle turns in the opposite direction of the front, which reduces the turning radius and enhances maneuverability. This mode also has a deadband feature. Deadband allows the vehicle front axle to be turned a predetermined number of degrees in either direction before the rear axle steers. The deadband varies according to the speed of the vehicle. The rear axle lock remains engaged (locked) when the front axle is within the deadband range.

C. Crab Steer: When the front axle is steered, the rear axle steers in the same direction as the front axle. This makes the vehicle travel in a diagonal motion, sometimes called "crab walking". This mode can be useful for parallel parking or for counteracting side forces applied to a vehicle, such as during low speed snow blowing or loading operations.

D. Electronic or Manual Rear Steer: When in this mode, the rear axle is controlled only by the joystick, independently of the front wheel position. Use this mode only during low speed operation. This mode is particularly useful when backing or maneuvering the vehicle. The mechanical lock is disengaged (unlocked) at all times when in this mode.

E. Switching Between Modes: The mode switch may be moved at any time.

The steering wheel shall be fully adjustable. (tilt and telescope)

All steering mode controls will be backlighted, identified and shall be located in the cab with operator access while in the normal operating position.

A system shall be furnished such that the unit cannot be operated at an unsafe speed if the rear wheels are not locked in the straight ahead position.

A system shall be installed to indicate the position of the rear wheels, straight, right or left. This can be a series of LED lights (seven minimum) or an indicator gauge, back lighted, dash or console mounted above or below the locking/unlocking switch.

The wall to wall turning diameter, with the unit fully operational, but not including the side cutter bars, shall not exceed 70.0 feet.

8. TIRES/WHEELS: Four (4) wheels and tires shall be furnished. All wheels and tires shall be the same (brand, model, tread design, load range, etc.). The tires shall be radial ply tires. The wheels shall be the steel disc type. The tread design shall be the heavy duty traction type. The wheels and tires rated capacity shall meet or exceed the maximum loads imposed with the rotary head locked in the up (dead head) position and the unit operating at its maximum road speed with full fuel tanks.

9. CAB: The unit shall have a fully enclosed, two door, thermally and acoustically insulated cab. The cab shall be equipped with an approved tinted safety glass windshield and opening side doors and windows.

Note: All windows will be approved safety glass.

The cab shall have seating for the driver and one passenger. The cab and seating will be of sufficient capacity to accommodate a 300lb. operator and a 300lb. passenger.

Note: The standard unit will be built to have a right hand flat cast with the operator located to insure the best possible visibility.

The following items, supplementing, if necessary, those items already cataloged as standard cab equipment, shall be furnished and installed:

a. The operator seat shall be a Bostrom 400RX or equal, fully adjustable in the horizontal and vertical positions with mid back, air assist, arm rests, fixed lumbar, cloth covered, load adjustable, heated, and furnished with 3 point type safety belts.

b. A folding passenger jump seat shall be provided to the left or right of the operator. The seat shall be equipped with three point type safety belts and be of sufficient capacity to accommodate the 300lb. passenger.

c. Windshield and rear window defoggers.

d. Side window defoggers. The side windows will also open for ventilation.

e. Cab heater (heat shall be directed to the floor area as well as the mid-area) shall be capable of maintaining a cab temperature of 70°F in all operating conditions.

f. 12-Volt 30 amp accessory power outlet.

g. Right and left outside rear view mirrors shall be heated and power adjustable from inside the cab.

h. Sun visor(s), (when required).

i. Electric or air variable speed windshield wiper(s) and left and right window wipers, all with independent controls. The wipers shall provide the operator an absolute, clear line of vision. The wipers shall clear a minimum 80% of windshield area.

j. Dual windshield washers with controls in combination with wiper controls.

k. Dual arm rests.

l. Shall be equipped with all necessary instruments including an odometer (in miles) and a speedometer (in miles per hour) mounted close to the tachometer. Warning lights will not substitute for readable instruments. An LCD display will also be acceptable.

m. Fresh air ventilators or automatic climate control system.

n. Steps and grab handles to safely enter the cab and engine compartment and allow safe access for checking all fluid levels. All steps and walkways shall be raised lug material or comparable type construction and adequate to support 300 lb. operators.

o. Dome light. (activated by door switch and independent control)

p. Floormats, headliner, and cab insulation.

q. Spotlight, rotatable, shall be mounted on the top front of the cab. Remote controls will be accessible from the operator's position. The spotlight location will be determined during construction while height limitations are reviewed.

r. Alternating flashing amber lights (ref. Bulb General Electric 4434A, flasher Road Runner ETAF15-P or comparable) one each side facing to the rear and one each side facing to the front, front and rear controlled separately from the cab. The preferred mounting should be from 5' to 8' feet above the road surface.

s. Radio, AM/FM/CD stereo with two speakers, one on each side of the cab.

10. FUEL CAPACITY: The snow blower shall have sufficient fuel capacity to operate at 80% of its maximum capacity for 10 hours.

11. ROTARY SNOW BLOWER HEAD: The rotary snow blower head shall be two-stage with serrated, ribbon type cutter reels. Fan rotation shall be to the right (unless left-hand rotation is called for on the purchase estimate) when viewed from the operator's position.

The cut width shall be 102 inches minimum to 112 inches maximum. (without wings) The cut width shall be wider than the width of the carrier body and outside tire dimensions by at least five (5) inches.

Rocks, six (6) inches in any straight line dimension, shall not cause major damage to the snow blower. This shall be defined to mean that repairs to the unit (by a mechanic) will not be required to continue its operation.

The serrated, ribbon-type cutters and impeller shall be either mechanically or hydraulically driven, or a combination of both. The serrated ribbons will be bolted and not welded in place. The bolts will be protected from wear.

On mechanically driven systems, the maximum input torque, RPM and horsepower of the engine will be no more than 90 per cent of the continuous rating of any drive component in the blower head system. The manufacturer's torque rating for all gear reducers, planetary reducers, etc., shall be submitted with the bid.

On hydraulically driven systems, the hydraulic oil temperature and oil pressure gauges shall be installed in the cab. An automatic hydraulic system low oil level shutdown shall be installed with a warning light located in the cab.

All hoses in the hydraulic system shall be hydraulic hoses with crimp fittings. No hydraulic hoses will be painted.

The cutter and impeller direction of rotation shall be reversible from within the cab. The cutter reverse speed shall be minimum 10 RPM and the fan reverse speed shall be minimum 30 RPM at full engine speed.

The snow blower shall be capable of casting snow to either side. A directional spot-casting chute shall be furnished such that the snow can be directed side-front-to-side (180 degree rotation). This chute shall be capable of casting the snow from within ten (10) feet of the unit up to forty (40) feet away from the unit. The chute rotation shall be actuated hydraulically and controlled from the cab. The chute shall be mounted to the rotary blower head so that the primary discharge chute (impeller housing) can rotate to the left and right underneath the spot casting chute. Use of the spot casting chute is accomplished by rotating the impeller housing and directing the snow discharge straight up through the chute. The chute shall hydraulically fold down to provide clear forward visibility for the operator while roading the unit. This function shall be hydraulically controlled from the cab. Wire or cable-type actuation will not be acceptable.

The lower edge of the blower head moldboard shall be equipped with a (min. 3/4" thick) bolt-on replaceable ground engaging blade. The blade will be designed for high abrasion applications, through hardened and heat treated for maximum impact resistance. With

the blower head level with the ground the blade shall have an angle of (32 to 55) degrees with the ground.

The snow blower shall be equipped with side cutter bars. The side cutter bars shall be a minimum of 5/8" inch thick, sixteen (16) inches wide at the base, four (4) inches at the top, and extend as high as the top of the cab. The top of the cutter bars will extend (12) inches in front of the reels. The cutter bars shall be properly reinforced and braced.

The blower housing, fan housing, and discharge chute shall be equipped with multiple-piece, replaceable wear liners made of 1/4 inch thick AR steel. Dependant upon the configuration of, transition to and from, and anticipated wear characteristics to the blower housing, fan housing, and discharge chute, the replaceable wear liners shall be in segments for maximum ease of replacement. Installation and fastening of the AR steel liners shall be in accordance with the manufacturer's recommendation.

Adjustable height (minimum) 10"x 4" steel, or foam filled rubber, swivel caster wheels shall be mounted on the rear and to each side of the rotary head (2 EACH SIDE). Height adjustment shall allow the operator to adjust the ground-engaging blade from contacting the ground to two (2) inches in height.

The ribbon type cutter and fan shall be protected by shear bolts, hydraulic relief valves or a torque limiter. All shear bolts shall be accessible for replacement by personnel using common hand tools.

The blower head shall have an "Auto Up" function that will raise the blower head when the transmission is shifted into reverse. There will not be any provision for the operator to turn off the "Auto Up" function.

All shear locations will utilize the use of standard (unmodified), grade five (5) bolts. All shear bolt locations shall be easily accessible for the operator to replace the bolts.

The blower head shall be capable of being hydraulically raised and lowered and mechanically locked in the up (dead head) position from within the cab. The blower head shall have a minimum lift of twelve (12) inches.

12. CONTROLS: All rotary blower controls, chute controls, drive controls, engine controls, and steering controls will be located in the cab with easy operator access while in the operator's position. All controls and switches will be permanently labeled and suitably lighted for night time operation.

The controls should be operational in established conventional (U.S.A.) mode, or in logical operational mode where convention does not exist (e.g. lever up to raise head, lever right to rotate impeller housing to the right, etc.).

13. MISCELLANEOUS:

a. The wall-to-wall turning diameter, with the unit fully operational, but not including the side cutter bars, shall not exceed 70.0 feet.

b. The overall width of the chassis should not exceed 102 inches, but not including the rotary head).

c. The overall height of the unit with the head up, should not exceed 138 inches.

d. Maintenance access steps and catwalks (inside or outside) shall be installed along the sides of the (blower) engine housing. (raised lug material or comparable should be used for the catwalks). A cross access step or pass through access shall be provided for access from one side to the other. Grab handles shall be installed along with the access steps to provide three point access at all times.

e. Grab handles shall be installed to facilitate safe access to the blower head for cleaning of the fan and chute.

f. Rear-facing work lights shall be installed on each side, at the rear of the unit. These shall have sealed beam lamps, weatherproof housing, and adjustable ball-stud mounts (Ref: Trucklite Part No. 80361 or comparable).

g. Wiring shall be identified to match the electrical schematic. (Do not paint over any wiring identification).

h. A rear bumper shall be provided and shall be at a height to provide an enter/exit angle of fourteen (14) degrees. (Minimum) The bumper shall be of sufficient strength to tow or push the unit. Tow hooks or the vendor's standard towing devices shall be mounted to the rear bumper or vehicle frame to pull the unit if it becomes stuck during snow removal operations. The tow hooks or the vendor's standard towing devices shall be appropriately secured to the rear bumper or vehicle frame; they shall be compatible for use with ½ inch welded chain and have a minimum 3-inch inside diameter. The bumper will be constructed from a minimum of 3/8 inch thick material. Tire chain hangers will be mounted on the rear bumper. Reflectorized tape will be installed across the entire width of the bumper.

i. A lighted rear license plate bracket shall be provided and installed.

j. The snow blower shall have an enter/exit angle of 14 degrees to drive in and out of driveways and for trailer loading. (Minimum)

14. MATERIAL: Construction shall be of all new material free of rust and any defects. All components in the assembly shall be fabricated from a single piece of material. Material which is joined by welding or other means to form a single piece of stock is not acceptable. The finished product shall be free of dents and warpage. The use of any type of body filler is unacceptable. All bolts shall be Grade 5 or better and conform to SAE and ASTM standards. Bolt lengths shall be such that a minimum of two threads shall extend beyond the nut. Nuts shall be the locking type. Nuts and washers shall be compatible with the bolt(s) to which they are attached. If requested, the supplier will submit proof of fastener strengths.

15. METAL SHAPING: All breaks shall be free of cracks. Radii shall be at least twice the thickness of the material or in accordance with the requirements established by ASTM for the particular material being formed, whichever is greater. All holes shall be round, of the proper dimension, perpendicular to the material they are produced in, and finished smooth. Oblong holes or holes drilled, bored, etc. at angles are not acceptable. Holes and slots shall be drilled, punched, saw cut, plasma cut, or milled; torch cut is unacceptable. Sharp corners on all material shall be radiused to prevent personnel injury.

16. ELECTRICAL EQUIPMENT: Minimum electrical equipment shall comply with all Federal Motor Vehicle Safety Standards (FMVSS) and State of California Department of Motor Vehicle regulations. Not withstanding any Federal or State minimum requirements, each unit shall be equipped with two (2) taillights, two (2) stop lights, and turn (left and right) signals. All lights shall be light emitting diode (LED) recessed type, mounted in rubber grommets. The tail, stop, and turn signal lamps may be in combination (Ref. Truck-Lite #44982R (round); #60885 (oval); with 'hard coated' lens). Backup lights shall be installed (Ref. Truck-Lite 44141C, with 'hard coated lens). Grommets shall match the light used. Side marker, clearance, and ICC lamps shall be 2½-inch LED units (Ref. Truck-Lite #10250R, #10250Y and #10700 grommets). Retro-reflective tape reflectors (Ref. Petersen Mfg. #B490R and #B490A), shall be used where needed to meet FMVSS requirements for Class A reflectors. Mounting holes for lights shall be the proper dimension as recommended by the manufacturer of the light. The holes shall be punched, plasma, or saw cut and finished smooth; torch cut holes are unacceptable.

The battery system shall be made up of Group 31-12 volt accessible maintenance free batteries (Ref. Delco's Freedom or comparable). The system rating shall be not less than 1,825 CCA (cold cranking amps) at 0° F. and a reserve capacity of not less than 425 minutes at 25 amps and 80° F. Ratings are as established by BCI (Battery Council International) and SAE. The electrical operational system shall be 12-volts. Side terminal batteries are not acceptable. In no event shall any lamps interfere with the operators view when looking in any rearview mirror.

A minimum 160-amp alternator with a matching regulator shall be furnished.

All wiring installed by the supplier shall be the stranded copper type and shall have cross-linked polyethylene insulation and be protected in vinyl plastic auto loom and in areas specified, by rigid/flexible conduit. Minimum gauge of wire to the lights shall be in accordance with SAE standards for distance from power source and load demand. Wiring color code for lights shall comply with SAE standard J560(b). The ends of all cut stranded conductors shall be mechanically stripped and fitted with weather proof connectors (Ref. Truck-Lite 'Fit 'N Forget' plug assembly, or comparable; contact Truck-Lite Technical Support at (888) 562-5012). The terminals shall be mechanically crimped securely with appropriate tool(s). All splices shall be sealed against moisture (including inside the cab). Scotch Lock wire-type piercing devices shall not be used.

NOTE: No splicing, cutting, or bullet-type plugs are acceptable in wiring looms or on lights.

Appropriate tools shall be the following, or comparable, for use and purpose as applicable:

Wire Stripper: Ideal Industries, Inc., Catalog Number 45-092.

Cable Stripper: Ideal Industries, Inc., Catalog Number 45-128.

Multi-Crimp Tool: Ideal Industries, Inc., Catalog Number 30-429.

Cutting Pliers: Klein Tools, Inc., Number 7YLL (1104).

Ground return connections shall be attached to the vehicle frame, body and or engine. In cases where the engine or body is mounted on rubber or other insulation, proper grounding shall be provided with grounding straps. Star type washers will be used on all grounds.

The edge of all metal members which wire harness or loom pass through shall be deburred, flanged, rolled or bushed with suitable grommets. In general, wire routing shall be such that maximum protection is provided by the vehicle sheet metal and structural components. All electrical work and installation of equipment and devices shall be completed in a workmanlike manner, mechanically and electrically secure. Devices, lamps, etc., requiring periodic service shall be serviceable and accessible by providing wire length to reasonably accomplish this.

All lights and accessory switches shall be the circuit breaker rocker type or rocker switches with circuit breakers adjacent to the switches. All light switches and accessory switches shall be identified and backlighted for night use. All switches and circuit breakers may be mounted in an overhead console with easy access to the operator.

NOTE: All internal and external wiring shall be sealed against moisture.

17. WELDING: All welding shall comply with the requirements as represented in American Welding Society (AWS), D14.3-82, and American National Standard entitled "Specification for Welding Earthmoving and Construction Equipment."

All welds shall be continuous except as noted. Intermittent or spot welds shall be spaced and proportioned to provide ample strength for the material being welded. Weld sizes not indicated shall be equal to the thickness of the least of the joined plates.

All welds shall be properly fused, displaying proper penetration and a professional finish, and must meet the qualification requirements of applicable AWS specifications. Examples of unacceptable weldments are:

a. Cracks
b. Undercut
d. Excessive Splatter
e. Blow Holes

c. Overlap f. Slag Entrapment

Any weld failing to comply with the AWS specification or failing to pass a quality assurance inspection performed by the State, will be corrected by the manufacturer, at their expense, and be corrected off State property. The State shall determine if a weld is acceptable or deficient.

Any deficient weld shall be corrected by a welder who is certified in accordance with the requirements as established by the American Welding Society (AWS). The welder shall have the proper certification documents indicating that he/she is qualified to perform the type, size, and position of the weld performed, with the welding process utilized, and on the material being welded. The supplier will be required to supply proof of current welding certifications for personnel performing any re-welding on the unit, upon request of the State whether written or verbal.

GRINDING OF WELDS must have prior approval of the Department of Transportation, Division of Equipment, Equipment Specifications. Welds which have been ground without approval shall be subject to complete re-welding upon request, at no additional cost to the State.

All assembly dimensions and tolerances on drawings apply after welding. Excessive warpage of assembled parts is not acceptable. Weld symbols on drawings shall be interpreted per American National Standard Welding Symbols. In the event of the lack of a weld symbol, the best commercial practice shall prevail. The covering of welds with body fillers or similar materials is unacceptable.

18. PAINT: All metal surfaces shall be finish painted outside and inside. All surfaces to be painted shall be prepared in accordance with the paint manufacturer's recommendations to provide maximum paint adhesion. All metal surfaces shall be primer painted in accordance with the paint manufacturer's recommendations, not less than 2 mils dry film thickness. The finish coat shall be lead free, and shall be not less than 2 mils dry film thickness (total of 4 mils). Ref: DuPont Imron 5000 (#N6431HN H), polyurethane enamel, or equivalent. Paint colors for the snow blower shall be in accordance with Caltrans Division of Equipment Fleet Identification Standards as shown on the California Department of Transportation Web Site at http://www.dot.ca.gov/hq/eqsc/qualstand.htm.

The finish coat shall be free from runs, drips, sags, etc., and shall be evenly applied to provide a gloss finish. All paint and primer shall be lead free. The finish or top coat shall be compatible for re-coat or touch-up with lead free DuPont Imron 5000 referenced above. Any mounting scars due to mounting the snow blower and equipment shall be repaired as necessary and refinished. Any paint overspray (glass, paint, rubber, etc.) shall be removed and the surface returned to its original condition. All paint material used shall be comparable, as determined by the State, to those referenced above. The blower chute shall be painted flat black.

19. NOISE: Noise emitted by each unit delivered in compliance with these specifications shall comply with all California and Federal laws or regulations pertaining to maximum allowable emission of noise inside the operator's cab. In no event should the noise emitted be greater than 85-dB (A).

    The sound level reading will be taken with the equipment unit stationary after the unit has been warmed up for 15 minutes. The reading will be taken with the engine operating at full governed RPM and as applicable, with both side doors and windows closed, one (1) operator in the cab with the meter near center of cab about two (2) feet below the roof and twelve inches from the operator's ear. All non-propulsion-operating controls may be randomly actuated throughout the test. Sound testing will be conducted at the snow test site only.

20. Vandal protection package: The snow blower shall be protected from theft and vandalism. Vandal protection shall include the operator's compartment, engine compartment, battery compartment, and all fluid ports. If necessary, the snow blower shall be equipped with transmission side guards to protect the transmission and related components from vandalism. At least four sets of keys shall be provided for all keyed locking doors and compartments.

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION

DIVISION OF EQUIPMENT

ITEM NO.	UNIT	CAB	TRANS	ENG	CAP	C.A.	F.A.	R.A.
17103	EA	REG		D	3,500			

SPECIFICATION NUMBER: 17103-027-081

SPECIFICATIONS FOR: ROTARY SNOW BLOWER 3,500 TPH.

PURCHASE ESTIMATE NUMBER: 32-12-5234

ADMINISTRATIVE PROCEDURES

1. WARRANTY: The unit(s) including chassis, engine(s), drive train, modifications, etc., and any optional accessory, shall be free from defects in workmanship and materials and be covered (parts and labor) under warranty for five (5) years or 4,000 engine hours, whichever occurs first, following the date the Department of Transportation puts the unit into service. The Department will notify the vendor by mail of the in-service date. A copy of the manufacturer's warranty for the unit and any accessory or optional equipment shall be supplied with each unit.

   Equipment manufactures shall provide a list of factory fill lubrication products and corresponding American Petroleum Institute (API) certification, National Lubricating Grease Institute (NLGI) grade rating and International Standards Organization (ISO) classification. This information will allow the Division of Equipment to cross-reference the re-manufactured lubrication products on State Contract used in new equipment. A list of the lubrication products on State Contract is attached to the In-Shop Warranty Agreement. If any of the States Lubrication Products are unacceptable, the manufacturer will have to provide information where they fail to meet specification. If special lubrication products are required, then two manufacturers of the lubricant will have to be supplied.

   Vendor/Manufacture shall provide a list of all factory-installed filters, filter numbers and the type of coolant installed in the equipment.

   An In-Shop Warranty agreement form (see attached) shall be signed by the vendor or manufacturer and submitted with the bid.

Caltrans, at its option, may perform warranty work under the terms of the "In-Shop Warranty" agreement. If Caltrans opts not to perform the warranty work, the vendor shall pick up the unit within 24 hours of notification, written or verbal. The unit may be in the field (at a work site, accessible) or at a Caltrans facility. The unit shall be repaired and returned within 5 working days to the Caltrans facility nearest to where the unit was originally picked up. Upon prior approval with Caltrans and in compliance with all Caltrans Policies and Procedures, warranty work may be performed at a Caltrans facility.

The vendor may use a traveling mechanic to perform the warranty work. The vendor will be responsible for all associated costs (travel time, overtime, per diem, etc.)

2. BOOKS AND MANUALS: One (1) set of standard operator's manual, complete lubrication instructions, parts books and shop repair manuals (complete with electrical and hydraulic schematics) shall be supplied to each ship to location.

3. WORKMANSHIP: The equipment and any accessories shall be a product of good workmanship and shall be free from any defects that will affect their appearance or serviceability.

4. SAFETY: The entire unit and accessories shall comply to the applicable provisions of the California Vehicle Code, the Safety Orders of the Division of Industrial Relations, and all Federal regulations in effect at the time of manufacture.

5. TRAINING: The supplier, at his expense, shall provide a qualified factory authorized service representative (not a salesman) to provide training (at each units assigned location) for operators, mechanics, and parts personnel. This training (not a sales presentation) shall consist of hands on operation, safety, service and adjustments for the operators, mechanical repair and adjustment specifications for the shop and field mechanics, parts manual orientation, and nomenclature and ordering procedures for parts personnel. It shall also cover lubrication and servicing using Division of Equipment lubrication products. This lubrication product information will be provided to the supplier by the Division of Equipment Lubrication and Research Branch. In addition, the complete training program will be supplied to Cal-Trans on two (2) DVD's per unit for future operator and refresher training.

A training plan outline, containing at least all of the subjects listed above, will be submitted for approval within 30 days after receipt of the order (ARO) to the Division of Equipment Training Coordinator.

The training will be provided at the Caltrans Equipment units assigned location(s). This training shall be for one (1) 8-hour day (or longer as the supplier or State deems necessary), and the date(s) of the training will be arranged by the Division of Equipment Training Coordinator. The full cost of this service shall be included in the bid. All training shall be accomplished within 14 days after the request from the Training Coordinator or within 30 days after acceptance and receipt of the unit at the

equipments assigned location(s) unless otherwise mutually agreed to between the supplier and the Division of Equipment Training Coordinator.

6. CONDITION OF PURCHASE AND BUY BACK PRIVILEGE:

a. Performance Testing: A performance test of the rotary snow blower will be conducted by State forces. The tests shall be conducted in accordance with the procedure outlined in Caltrans Snow 2000. Failure of the unit to meet the performance test will be grounds for the State to invoke the buy back clauses as outlined below.

The rotary snow blower under performance testing will be required to meet all of the following:

(1) Test Conditions:

(a) Elevation of Test Site: Between 5,000 to 9,000 feet above sea level.

(b) Weight of Snow: 25 lbs./cu. ft. to 40 lbs./cu. ft.

(c) Shear Strength of Snow: To 400 lbs./sq. ft.

(d) Depth of Snow: Snow depth between three-quarter (3/4) to full cutter reel height.

(e) Shear bolts: Other than the standard shear bolts may be used during the snow test.

(2) Performance Requirement:

(a) Capacity: 3,500 tons per hour minimum. (with shear strength correction)

(b) Casting Distance: (both left and right)

1) From the vertical centerline of the unit, top of the cutting reel, horizontally to the center of maximum deposit at specification rated capacity, not less than 40 feet.

2) From the vertical centerline of the unit, top of the cutting reel, horizontally to the center of maximum deposit (may be at less than full output), not less than 75 feet.

(c) Rocks: Ingest or stop, without damage, six (6) rocks, each six (6) inches in any straight-line dimension.

b. Retainer and Buy-Back Privilege:

(1) Condition A: Vendor's designated delivery date on bid sheet occurs during the current snow season and performance test of complete unit can be conducted in not more than 60 working days after vendor's designated delivery date, provided there is sufficient snow at test site to perform a valid test.

The State will retain the 20% of the vendor's bid price excluding any discount if offered at time the unit is delivered.

The State will retain the 20% share of the full bid price until the State verifies that the unit bid meets the above performance test criteria.

In the event the rotary snow blower unit does not perform as specified above, the vendor will be allowed 15 calendar days to adjust or repair the unit for a second test. The second test will be conducted within 30 days of completion of any adjustment or repairs. In the event the rotary snow blower meets the performance test criteria, the State will process immediate payment to the vendor the 20% of vendor's bid price retained, less any discounts, if offered.

Adjustments and repairs shall not be construed to include major design or component changes. Any adjustment or repair shall not cause the unit to deviate from the specification. Any adjustment or repair will not cause any associated component to exceed its designed or rated capacity.

In the event the rotary snow blower unit will not perform under above outlined test criteria or the second test, the State will require the vendor to buy back the rotary snow blower unit supplied under this specification. The buy-back price shall be the actual cash payment to vendor (80% of purchase order price). The f.o.b. point for the vendor to pick up this rotary snow blower will be at the original delivery destination as stated on the purchase order.

(2) Condition B: Vendor's designated delivery date to the State on bid sheet occurs at the end of the current snow season and performance test of complete unit cannot be conducted in not more than 60 working days after vendor's designated delivery date because of insufficient snow at test site to perform a valid test.

The State will retain 20% of the vendor's bid price excluding any discounts, if offered, at the time the unit is delivered.
The State will retain 20% share of the full bid price until the State verifies that the unit bid meets the performance test criteria outlined in this specification.

The performance test will be conducted during the next snow season at that time in which there is sufficient snow at the test site to perform a valid test.

In the event the rotary snow blower bid meets the performance test criteria, the State will process immediate payment to the vendor the 20% of vendor's bid price retained, less any discounts, if offered.

In the event the rotary snow blower unit does not perform as specified above, the vendor will be allowed 15 calendar days to adjust or repair the unit for a second test. The second test will be conducted within 30 days of completion of any adjustment or repairs.

Adjustments and repairs shall not be construed to include major design or component changes. Any adjustment or repair shall not cause the unit to deviate from the specification. Any adjustment or repair shall not cause any associated component to exceed its designed or rated capacity.

In the event the rotary snow blower unit will not perform under the above outlined test criteria of Condition B on the second test, the State will require the vendor to buy back the rotary snow blower unit supplied under this specification. The buy-back price shall be the actual cash payment to vendor (80% of purchase order price). The f.o.b. point for the vendor to pick up this rotary snow blower will be at the original delivery destination as stated on the purchase order.

c. Buy-Back Condition: The buy back funds must be received by the State within 30 days of the request for the buy back funds.

The rotary snow blower unit must be removed from the State facility within 30 days of notification for removal of the unit.

7. INSPECTION: This order will require a three (3) phase inspection process. For all inspections the unit(s) will be serviced, washed and ready for, as applicable, inspection or delivery. Inspections will begin within fifteen (15) working days from the date of the inspection request by the supplier. It is the supplier's responsibility to contact the Equipment Parts Coordinator for inspections.

FIRST PHASE (PRE-PRODUCTION MODEL): The first production unit or pre-production model of the series of units on this order shall be completed in accordance with the specifications and drawings, including all requested items and sub-components. Arrangements for inspection of the pre-production model shall be made only when all work is complete but prior to painting.
One (1) inspection shall be made at the manufacturer's plant by California Department of Transportation, Division of Equipment, Engineering Specifications and Quality Assurance personnel when the unit is fully operable, but not necessarily 100% complete (i.e.-finish paint, etc.). The inspection at the

manufacturer's plant will not constitute final acceptance of the unit. Final acceptance will be made upon delivery of an acceptable, complete unit complying with the specifications, at the designated location as stated in the purchase order. Upon receipt of the Purchase Order the supplier shall notify the Division of Equipment, Quality Assurance Unit that out of State travel is required for this inspection.

The supplier shall provide a qualified, factory authorized service representative to be in attendance at the pre-production inspection as well as the pre-delivery inspection (second phase), to answer all questions regarding construction and system design and function, to demonstrate all operations and functions, and to make any necessary adjustments to the units. The cost for this service shall be included in the bid.

The inspection at the supplier's place of manufacture shall be in accordance with the following:

a. The inspection trip to the supplier's place of manufacture will be made by two (2) personnel from Caltrans, Division of Equipment, and will be for a minimum of two (2) full working days, excluding travel time. This inspection trip will be made upon notification by the supplier that the unit covered by these specifications is ready for inspection. The inspection trip shall not require weekend travel or work.

b. A complete operational check of all systems of the unit will be made, and will include, but not limited to the following:

i. Quality of welds.

ii. Securement of lines, hoses and electrical wiring.

iii. Stability of equipment and accessories attached to the chassis

iv. Safety factors such as sharp corners, exposure to hot surfaces, guard rails, shields over moving parts, kill switches, and warning placards.

v. Visibility of the gauges and controls from the operator's position.

vi. Test operation of all equipment.

vii. Testing of the operation of all systems and components.

viii. Travel speed capability.

ix. Weight ratings.

c. The supplier will include in his bid price all expenses as listed below for the inspection trip for two (2) people as follows:

i. All travel expenses including air fare, ground transportation mileage, tolls, parking, etc. to and from the airport at the point of departure - Sacramento, California. Also, car rental for transportation from the nearest airport to the supplier's place of manufacture where the inspections will take place, and for each full workday at the supplier's designated facility where the inspections will be conducted.

ii. All lodging, meals and incidentals for each workday at the supplier's designated facility where the inspection(s) will be conducted. Also, those meals and necessary lodging as required during travel from Sacramento, California, to the supplier's place of manufacture and return.

On units where relative or interacting motions exist, these shall be demonstrated within the full range of movement (e.g., blower head, brake components, hydraulic actuators, and sub frame).

The vendor shall receive a copy of the inspection report within 5 working days of the inspection indicating that the first unit is either acceptable or not acceptable. Unacceptable or non-compliant items will be listed on the report. If late delivery charges accrue, the vendor will not be held responsible for those days from the request of the inspection to the receipt of the inspection report.

Additionally, where applicable, the supplier shall complete and sign the supplier pre-delivery inspection (PDI) form and the supplier shall note the appropriate Purchase Order Number and Line Item on each form.

If additional interim inspections are required, such inspection trips shall be at the expense of the supplier at $75.00 per hour (including travel time) and all expenses (meals, lodging, and cost of transportation). Travel expenses will be documented on State of California, Department of Transportation, Travel Expense Claim Form, FA302. These fees may be deducted from the invoice. After inspection and acceptance by the State, the first production unit or pre-production model shall be the criteria or basis for acceptance of the balance of the delivery. This will not constitute final acceptance of each unit remaining on the Purchase Order.

SECOND PHASE (PRE-DELIVERY INSPECTION): In accordance with the State Administrative Manual, Section 4112 and the Caltrans inspection program, each unit will be inspected prior to shipment to the destination on the purchase order. This inspection trip(s) shall be within the State of California and shall be State financed at no cost to the supplier.

Arrangements for pre-delivery inspections shall be made only when multiple units are complete. Each unit shall be identified with the applicable Purchase Order and Line Item. If corrections are needed as a result of the inspection, the

corrections shall be made prior to shipment to the purchase order destination. Authorization to deliver unit(s) must be granted by the Department of Transportation, Division of Equipment, Quality Assurance Section.

If additional interim inspections are required, such inspection trips shall be at the expense of the supplier at $75.00 per hour (including travel time) and all expenses (meals, lodging, and cost of transportation). Travel expenses will be documented on State of California, Department of Transportation, Travel Expense Claim Form, FA302. These fees may be deducted from the invoice.

THIRD PHASE (FINAL INSPECTION): Each unit will have a final inspection at its delivery destination shown on the Purchase Order to verify acceptability. The State will have five (5) working days after delivery of a unit to conduct the final inspection of said unit. Units delivered to the final Purchase Order destination will be accepted only when all Purchase Order requirements have been met, any shipping damages have been corrected, and all required documents are received by the Department of Transportation, Division of Equipment, Equipment Receiving. These documents include, as applicable, the invoice, vehicle registration documents, parts book, operator's manuals, service manuals, lubrication instructions and charts, warranty information, certifications, questionnaires, etc. Units which are not accepted by the delivery date on the Purchase Order will be considered delivered late.

If the supplier receives notice that the unit(s) is not acceptable, whether written or oral, the unit(s) shipped to the Purchase Order destination shall be removed within seven (7) calendar days. If the supplier fails to remove said unit(s) from the State's facilities within the specified period, the State may forward said unit(s) to the supplier by common carrier at the supplier's expense and risk.

8. OUT OF STATE TRAVEL: *If the supplier's inspection facility is not within the State of California*, the bidder should include in the bid price, all expenses as listed below for inspection trip(s) for each person (typically 2 persons) as outlined in the inspection section of the specifications and as follows:

- Airlines and vehicle reservations will be done through the State of California automated system (RESX).
- State employees assigned to travel will submit a Travel Expense Claim (TEC) to cover expenses for lodging, meals, per diem, incidentals, ground transportation including mileage, tolls, parking, etc. to and from the airport at Sacramento, California for each full workday at the supplier's designated facility. Expenses will be charged in accordance with Caltrans Division of Accounting, Travel Reimbursement Guidelines as shown on http://dot.ca.gov/hq/asc/travel/ch3.htm. Travel expenses will be recorded in the State Accounting System as an expenditure to Caltrans Equipment Program.
- Caltrans Division of Accounting will set up an Accounts Receivable to bill the Vendor after the TEC submitted by employee has been processed.

- After the vendor or manufacturer pays the bill, the Caltrans Division of Accounting will abate the recorded expenditures.
- All references to "inspection trip(s) shall be State financed at no cost to the supplier" shall be superseded for the above mentioned expenses when out of state travel is requested by the vendor.

The vendor shall receive a copy of the inspection report within 5 working days of the inspection. Unacceptable or noncompliant items will be listed on the report. If late delivery charges accrue, the vendor will not be held responsible for days in excess of the specified inspection report return period from the end of the inspection to the receipt of the inspection report.

If additional interim inspections are required, such inspection trips shall be at the expense of the supplier at $75.00 per hour (including travel time) for each employee in addition to the above mentioned Out Of State Travel Expenses.

The State's internal Out of State approval process takes approximately 2-4 weeks for approval. The successful Bidder should plan on submitting an official Out of State request to the Equipment Receiving Manager, in a timely manner, as to assure the synchronization of the State approval with the corresponding inspection date. This process needs to be performed for as many inspections needed, as outlined in the inspection section of the specification. Inspections will begin within ten (10) working days from the date of the out of state inspection approval.

NOTE: The State will not be held responsible for delivery delays if the successful bidder does not initiate the Out of State travel request in a timely manner, as mentioned above.

9. DELIVERY: Inspection, delivery, and final acceptance of all units on the Purchase Order shall be within 360 calendar days after the Purchase Order date.

Delivery of the first unit (Line Item #1)

a. For delivery between 1/10/09 and 3/16/09, no delivery incentive shall apply.

b. For delivery prior to 1/10/09 10% of the average unit cost as submitted on the Invitation For Bid (IFB) shall be added and paid by the State as the final unit cost.

To qualify for the early delivery incentive, the unit must be delivered, inspected, accepted and pass the performance tests in accordance with the bid specifications, administrative requirements and any other related clause or statement included in this invitation for bid. If the first unit does not pass inspection, acceptance or the performance test it shall not qualify for an early delivery incentive.

In the event that the supplier qualifies for an incentive, the supplier shall invoice the Department of Transportation and include the incentive earned in the unit

cost of the qualifying vehicle. The incentive earned shall be agreed and confirmed in writing between the supplier and the representative of the California Department of Transportation prior to submitting an invoice.

Contact the State of California, Department of Transportation, Division of Equipment, Equipment Parts Coordinator for delivery instructions.

Acceptance of delivery or placement in operation of any equipment shall not release the manufacturer from liability for faulty design, workmanship, or faulty materials appearing after final payment has been made.

NOTE: Upon delivery of the first unit for testing a California certified weight certificate will be supplied to engineering specifications for each axle to verify compliance with designs and technical specifications.

NOTE: The first unit (Line item # 1) will be delivered to 1920 35th St., Sacramento, Ca. 95816. Cal-Trans will be responsible for transporting this unit to and from the snow testing area.

10. LATE DELIVERY CHARGES: The parties to this agreement acknowledge that the State shall incur actual damages should the supplier fail to perform the work as called out in the contract and specification on the dates set forth herein. The parties, therefore, have agreed to late delivery charges in the amount of $100.00 per unit per workday.

Workdays are Monday through Friday inclusive, except State holidays observed Monday through Friday inclusive.

The parties also agree that the amount specified is not unreasonable nor punitive in nature because both parties have carefully considered the amount specified and believe it to be a reasonable estimate, and not excessive at the time the purchase order is entered into.

It is, therefore agreed, that the supplier will pay the State of California the sum of $100.00 per unit per work day (as stated above) for each work day the work remains uncompleted or unaccepted by the State, provided the total late delivery charges assessed against supplier shall in no event exceed twenty-five percent (25%) of the total value of the entire order, and the supplier agrees to pay said damages as herein provided. In the event such damages are not paid, the supplier agrees that the State may deduct the amount thereof from any monies due or that may become due said supplier.

11. PAYMENT: Process for payment will be initiated on each unit as units are received and deemed acceptable. The discount period will start after acceptance of each unit on the Purchase Order.

12. QUESTIONNAIRE: The attached questionnaire shall be completely filled out and will become a part of each bid submitted. Any portion of the questionnaire which is not

applicable to the equipment shall be shown as N/A (not applicable). Failure to submit a completed questionnaire may result in rejection of the bid. ("As per specification" will not be considered an acceptable answer).

13. VEHICLE REGISTRATION DOCUMENTS REQUIRED: The original dealer's "Report of Sale" shall be furnished by all California licensed dealers at the time of delivery of each unit or units covered by these specifications.

A California certification of compliance for vehicle pollution must be supplied at the time of delivery of each unit.

An original weight certificate from a California certified Weigh Master for registration purposes must be supplied at the time of delivery of each unit.

A Federal Excise Tax Exempt Certificate will be attached to the purchase order.

All documentation supplied for registration shall contain the following:

State of California
Department of Transportation/Equipment
34th Street and Stockton Boulevard
P. O. Box 160048
Sacramento, CA 95816

All required documentation shall be sent to the above address by the time of delivery.
NOTE: The State shall register and license all vehicles with the Department of Motor Vehicles.

14. GENERAL: One (1) complete set of filters (air, oil, water, fuel, hydraulic, etc.) shall be supplied to each delivery location. This set of filters shall be as recommended by the manufacture and shall be complete with the appropriate part numbers for identification.

The component parts of the unit shall be new and of proper size and design to safely withstand the maximum stresses imposed.

The manufacturer's torque rating of each driven part shall be equal to or exceed the torque rating of its driving member.

All equipment and accessories cataloged as standard, unless superseded by these specifications, are to be furnished and included in purchase price of this unit.

The vendor shall respond within 24 hours of any request for assistance or service.

The vendor or the manufacturer of the equipment being supplied shall guarantee that all replacement parts for the equipment shall be delivered to the State within 48 hours after the request is telephoned to the manufacturer, or vendor. If replacement parts will not be available because of shipping, the vendor shall AIR FREGHT the parts at

his expense. This requirement shall take precedence over the parts availability requirement in the "In-shop" warranty agreement and be in effect for a period of ten (10) years after the date the equipment is put into service by the State of California. Vendors may be removed from the bid list for failure to meet the parts availability obligation.

Major components outsourced by the rotary blower manufacturer shall be new models in current production, which are cataloged by the component manufacturer and for which manufacturer's published literature and printed specifications are currently available. This includes, but is not limited to engine(s), transmission(s), axle(s), etc. It does not include components specifically designed and manufactured for this rotary blower application.

At the time of delivery of any rotary snow blower, the vendor shall provide evidence of an adequate stock of proprietary spare and replacement parts in his or the manufacturer's inventory within North America. Parts in State inventory will not be considered as meeting this requirement.

If inventory items are available from commercial supply, parts or equipment houses located in California or Reno Nevada, they will not be required to be in the vendor's or manufacturer's inventory. The vendor shall provide a list of commercial part numbers and a minimum of two (2) sources for each item.

A comprehensive parts list with reference to commercial or brand name, part number and descriptions, as applicable, may be required as condition for acceptance of a unit (e.g., fasteners, brackets, switches, bearings, lamps, etc.).

Bids will be considered only from those manufacturers with a record of sales, use and acceptable performance in North America mountainous terrain for at least two (2) years. This includes, and is not limited to; snow removal capacity, parts availability, and service response. A reference list of owner operators, providing names of the company or agency and contact names (English speaking), addresses and telephone numbers shall be furnished with the bid to verify the proceeding. Failure to provide this list may result in rejection of the bid.

Bids will not be considered if vendor's designated f.o.b. delivery destination is other than the delivery address stated in the invitation to bid.

All equipment and options are to be factory installed. If the equipment and options are not available factory installed, dealer installed equipment and options may be acceptable. The bidder is to specify those items, which will be dealer installed.

The manufacturer's capacity rating (torque) for associated components, such as transmission, drop boxes, axles, drive lines, etc., will be submitted upon request of the State within five working days.

IN-PROCESS REVIEW: The unit(s) may require an in-process review to verify timely progress of the unit(s), and to resolve any technical issues that may arise. If there are any questions regarding the intent of the specifications or drawings, call the "Specification Engineer" as indicated on the Contact Information page provided with the Purchase Order. The necessity for an in-process review will be determined by the State, and will be coordinated by the Specification Engineer. Any in-process review conducted within the State of California will be at State expense and will not constitute acceptance of the unit(s).

OPTIONS

The following options or accessories shall be furnished only when specified on the Invitation For Bid and the Purchase Order. Price on options listed shall be per unit.

NOTE: Include price of options even though options are "non-award" items.

1. DIRECTIONAL LOADING CHUTE: In addition to the directional spot casting chute, a turret loading chute shall be furnished, such that the snow can be directed side-front-to-side (minimum 180° rotation, centered about the longitudinal axis) and be suitable for loading snow in the body of a dump truck with the sides at nine (9) feet eight (8) inches above ground level. This chute shall incorporate a top mounted spot casting flap to direct the snow discharge from within ten (10) feet of the unit up to forty (40) feet away from the unit. The chute rotation and the spot casting flap shall be actuated hydraulically and controlled from the cab. The chute shall be mounted to the rotary blower head so that the primary discharge chute (impeller housing) can rotate to the left and right underneath the loading chute. Use of the loading chute is accomplished by rotating the impeller housing and directing the snow discharge straight up through the chute.

   The chute "shall hydraulically fold down to provide clear forward visibility for the operator while roading the unit. This function shall be hydraulically controlled from the cab. Wire or cable-type actuation will not be acceptable.

   In the transport position, the chute shall sustain, no damage while operated at the maximum road speed and when transported at legal highway speeds.

   The transition dimension of the chute from the fan housing shall be a minimum of two (2) inches longer (all around) than the fan housing discharge opening. The chute discharge area shall not diminish more than 25%.

   The chute shall be equipped with multiple-piece, replaceable wear liners made of ¼ inch thick AR steel. Dependent upon the configuration of, transition to and from, and anticipated wear characteristics to the blower housing, fan housing, and discharge chute, the replaceable wear liners can be in segments for maximum ease of replacement.

   Option 1: Price $ 11,140.00

2. LEFT HAND CAST: The snow blower will have a flat cast to the left in lieu of the standard right hand cast.

   Option 2: Price $ 0,00 Upcharge

QUESTIONNAIRE FOR ROTARY SNOW BLOWER

Rotary Blower:

Make: WAUSAU
Model: DF-3500
Capacity (tons/hour) continuous: 3500 at 9,000 feet elevation
Unit overall width: (inches) 102" (chassis)
Cut width: (inches) 112"
Unit overall height: 138"
Gross Vehicle Weight Rating: (GVWR) lbs. 60,000

Engine (Chassis):

Make: CATERPILLAR
Model: C-13 Acert
Displacement: 12.5 L (763 cu.in)
OEM Net hp @ RPM: 380 @ 2100 RPM
OEM Net Torque: @ RPM: 1450 @ 1200 RPM

Engine (Blower):

Make: CATERPILLAR
Model: C-18 Acert
Displacement: 18.1 L (1,104.53 cu.in.)
OEM Continuous HP @ RPM: 575 @ 2100 RPM
OEM Net Torque: @ RPM: 1938 @ 1400 RPM

Cold starting Aid:

Brand: CATERPILLAR
Type: Ether injection

Low Coolant Indicator:

Make: CATERPILLAR
Model: 165-6634

Fan:

Make: Horton (chassis) Horton (auxiliary)
Model: Windmaster 11 Blade 32" / Windmaster 11 Blade 34"

Transmission:

Make: Allison
Model: 4500 RDS
Speeds forward: 4
Speeds reverse: 1

	FRONT	REAR
Axle:		
Make:	FABCO	FABCO
Model:	FSDP-14-G	FSDP-14-G
Capacity: (lbs.)	31,000	31,000
Ratio:	7.01	7.01
Speeds:	45.6	45.6
Springs:		
Capacity: (lbs.)	30,000	30,000
Brakes:		
Make:	FABCO	FABCO
Type:	Wedge	Wedge
Power Steering:		
Make:	Vickers	Parker-Denison
Model:	V20	PAUC 338R
Type:	Vane	Vane
Wheels:		
Number of studs:	10	10
Rim Size: (inches)	20 x 10	20 x 10
Capacity: (lbs.)	15,000 ea.	15,000 ea.
Tire chain clearance: (inches)	6-8"	6-8"

Tires:

Size/load range:	16R20XZL	16R20XZL
Capacity: (lbs.)	15,266 lbs.	15,266 lbs.

Cab:

Seating capacity: Two (2)
Driver's seat: Bostram Air Seat
Make: H. O. Bostram
Model: 400 Series 100 RX

Fuel tank(s):

Number of tanks: Two (2)
Capacity each tank: (gallons) 225 gal.
Location(s): Left & Right Side of Chassis
Type material: Steel

Rotary Head:

Number of stages: Two (2)
Configuration: Helical Ribbon & Impeller
Width: 112"

Primary cutter:

Type: Helical Ribbon
Shear Bolt location: Driveline
Drive System: Mechanical

Cutter speed, forward (RPM):

At full engine torque: 90 RPM
At full engine horsepower: 116 RPM

Cutter speed, reverse (RPM):

At full engine torque: 10 RPM
At full engine horsepower: 10 RPM

Fan:

Type: Four (4) Blade Impeller
Shear Bolt Location: Drive Flange
Drive System: Mechanical

Fan Speed, forward (RPM):

At full engine torque: 179 RPM

At full engine horsepower: 233 RPM

Fan speed, reverse (RPM):

At full engine torque: 30 RPM

At full engine horsepower: 30 RPM

Ground clearance (locked, head up position): 12 inches min.

Miscellaneous:

Operating weight: (without operator) 49,000 lbs.

Turn diameter: (wall to wall, feet) 64.5

Travel speed: (maximum, mph) 45.6

Travel speed, 5% grade: (maximum, mph) 39.7

Reverse speed: (maximum, mph) 8.6 MPH

Blowing speed: (Min. 20 mph) Yes: X No:

REFERENCE OWNER-OPERATOR: (List additional references on a separate sheet)

1. Firm/Organization: DANE COUNTY REGIONAL AIRPORT
   Address: 1000 International Drive
   City/State/Zip Code: Madison. WI 53805
   Telephone number: (608) 246-3387
   Reference person: Dave Jensen

2. Firm/Organization: IDAHO D.O.T.
   Address: POB 7179
   City/State/Zip Code: Boise, ID 83707
   Telephone number: (208) 334-4813
   Reference person: Steve Spoor

3. Firm/Organization: MBS INTERNATIONAL AIRPORT
   Address: 8500 Garfield Road
   City/State/Zip Code: Freeland, MI 48623
   Telephone number: (989) 695-5555 x13
   Reference person: Jeff Nagle

COMMERCIAL PARTS AND SUPPLY HOUSES: (List additional parts and sources on a separate sheet)

1. Firm: HOLT CATERPILLAR
   Address: 3850 Channel Drive
   City/State/Zip Code: West Sacramento, CA 95691
   Telephone Number: (877) 373-4100

2. Firm: VALLEY POWER SYSTEMS (ALLISON)
   Address: 855 Stillwater Road
   City/State/Zip Code: West Sacramento, CA 95691
   Telephone Number: (916) 373-5078

3. Firm: SEAGRAVE / FWD (Chassis)
   Address: 105 East 12th Street
   City/State/Zip Code: Clintonville, WI 54929
   Telephone Number: (715) 823-2141

Address of Final Inspection Location: PB LOADER CORPORATION
5778 West Barstow, Fresno, CA 93708

Address, Phone Number & Name of Contact for Warranty Service Provider(s):
WAUSAU EQUIPMENT COMPANY, INC., 1905 South Moorland Road, New Berlin, WI 53151-2321
Joe Slaski - (2620 784-6066

NOTE: THIS QUESTIONNAIRE SHALL BECOME PART OF THIS BID AND TAKE PRECEDENCE OVER ACCOMPANYING LITERATURE. THE BIDDER MUST COMPLETE THIS QUESTIONNAIRE IN FULL:

BIDDER: John Lemke
NAME OF FIRM: WAUSAU EQUIPMENT COMPANY, INC.
ADDRESS: 1905 South Moorland Road
CITY/STATE/ZIP CODE: New Berlin, WI 53151-2321
TELEPHONE NUMBER: (262) 784-6066

NAME: John Lemke
(Print or type)

SIGNATURE: John Lemke DATE: 6-16-08

Specification No.17103-027-081
PE No.32-12-5234

CALTRANS IN-SHOP WARRANTY AGREEMENT

Name of Supplier/Manufacturer WAUSAU EQUIPMENT COMPANY, INC.
Warranty Representative (print or type) Joe Slaski
Street Address 1905 South Moorland Road
City, State, Zip Code New Berlin, WI 53151-2321
Telephone Number 262-784-6066
Solicitation No. 56814 Due Date 06-23-08
Item (Quantity/Brand/Model) (10) ROTARY SNOW BLOWER 3500 TONS PER HOUR

When equipment is purchased for Caltrans, a section of the specifications requires the supplier/manufacturer to enter into an In-Shop Warranty Agreement.

The terms of the In-Shop Warranty Agreement for this equipment are as follows:

1. Labor rate charged by Caltrans will be $100.00 per hour.

2. Warranty claims will be processed on Caltrans Work Orders unless the supplier/manufacturer furnishes standard warranty forms.

3. Suppliers'/manufacturers' standard flat rate time schedules shall be used as a guide for In-Shop Warranty repair time. If a supplier's/manufacturer's flat rate time schedule is not available, Caltrans will use the time that is recorded on the Caltrans Work Order.

4. Replacement parts will be available within 5 working days from the date of receipt by supplier/manufacturer of a Purchase Order, whether the order is made by telephone or in writing.

5. Replaced parts will be held 60 days for inspection by the supplier/manufacturer.

6. Original Equipment Manufacturers' parts will be used as replacement parts; or, if OEM parts are not available, after-market parts of equal or better quality will be utilized.

7. Copies of invoices for all parts will be provided to the supplier/manufacturer.

Caltrans will contact the supplier/manufacturer for authorization to perform In-Shop Warranty repairs as stated in this agreement. Only under extreme emergency conditions will In-Shop Warranty be performed without prior authorization. If Caltrans opts not to perform the warranty work, the supplier shall pick up the unit within 48 hours of notification, written or verbal.

In-Shop Warranty Agreement shall remain in effect until all conditions of warranty in the State of California specifications and in the original manufacturer's warranty expire.

Signature, CT Warranty Coordinator _____ Date _____

Signature, Supplier/Manufacturer _____ Date 06/16/08

ROTARY SNOWBLOWER TEST CT SNOW 2000 (C)

GENERAL

On multiple unit orders, any number of units may be tested for acceptance. Failure of one (1) unit may be cause to reject the entire order.

The vendor shall provide the rotary blower operator for the test. The vendor will be allowed up to five (5) working days prior to the scheduled test to service and adjust the rotary snow blower(s).

Once the test date has been established, mechanical breakdowns, unavailability of parts, etc., will be considered a failed test attempt.

The test unit(s) will be transported to a preparation and test site by the State. The test unit(s) will be as received. The State will not use the unit(s) in any snow removal operation.

The State will provide a facility at the preparation site for the vendor to service and store the unit(s) during the allocated five (5) days prior to the test, "this facility", or "barn", will have electrical power, air, power, water, and diesel fuel available. "The vendor is to provide all other items required", (manpower, other fluids, tools, equipment, and miscellaneous supplies).

The designated test course will not be available for use by the vendor.

The vendor will be notified of the test results.

If the unit(s) is rejected, the unit(s) will be available for pickup by the vendor in Sacramento. The unit(s) shall be removed from the State facilities within ten (10) working days from the date of notification of failure and rejection.

Adverse weather conditions (high winds, storms, etc.) may be cause to postpone the test. This will be at the discretion of Caltrans, Quality Assurance Branch.

TEST SITE:

The test site will be determined by Caltrans, Quality Assurance Branch.

The test site will be at an elevation between 5,000 and 9,000 feet. The test course may be on a grade of + or – 3%.

The test course base shall be paved (asphalt or concrete).

The test course may be undisturbed snow, blown-in snow, or a combination of both. The snow may be leveled by a snow cat vehicle.

PROCEDURE:

The test course shall be prepared to provide a two-hundred (200) foot long course, of adequate width to provide a full width cut with no spill over, and a depth three-quarters (3/4) to full cutter reel height.

Stakes shall be placed at twenty-five (25) foot intervals as reference markers for timing the test run, for determining the snow shear strength, snow volume, and for reference sections for snow density determination.

If the average shear strength of the snow is 400 pounds per square foot or more, test conditions will be evaluated. Either a new test course will be made, the test will be canceled, or the vendor can elect to proceed without any additional shear corrections.

The rotary snow blower must comply to all performance requirements with snow shear strength from 0 to 400 pounds per square foot.

The rotary blower shall perform at rated capacity for a minimum of one hundred (100) feet, in four (4) continuous test sections. The operator, shall operate the unit for the full test course. At least three (3) timers shall take time interval readings for each twenty-five (25) foot reference section.

The unit shall be operated through at least one (1) test section to determine its maximum casting capability in both (left and right) directions.

MEASUREMENTS:

After the course is laid out, shear tests for the shear strength of the snow will be done. The test shall be performed two (2) to three (3) times in the middle of each twenty-five (25) foot section. The shear strength of the snow will be determined with a Swiss Rammsonde Tester.

The weight or density of the snow will be calculated by taking a vertical core sample. Two (2) or three (3) core samples shall be taken in each twenty-five (25) foot test section. The volume of the core sample will be determined by the depth of the hole the core sample was taken from.

Immediately after the test run is completed, measurements indicated below shall be taken and recorded.

1. The width of the cut, W, inches.

2. The depth of the cut, D, inches.

   Measurements shall be taken on each side of the cut, as necessary, at the midpoint of each section (midway between twenty-five (25) foot markers).

3. As necessary, measure the length of the test run.

4. The cast distance shall be measured for each twenty-five (25) foot section.

ACCEPTANCE CRITERIA:

The rotary blower shall perform at rated capacity for a minimum of one hundred (100) feet, in four (4) continuous test sections

The average of a minimum of four (4) continuous test sections must meet or exceed the output capacity (tons/hour) and cast distance (feet) requirements as outlined in the specification.

After all measurements have been taken, the unit shall be tested for its capability to handle rocks as outlined in the specification. Rocks shall be randomly placed from ground level to the top of the reel. A total of fifteen (15) minutes, from the time the first rock is contacted, will be allowed for this test. The rotary snow blower shall be operated until either all the rocks pass through the blower, have been pushed off to the side, or the snow blower sustains major damage and cannot continue the test. (Only standard, unmodified, grade 5 shear bolts will be allowed for this test)

During the fifteen (15) minute test period, only the rotary blower operator will be allowed to change shear bolts or otherwise take part in the test and operation of the unit.

The unit must comply with the rock requirement as outlined in the specification with no major damage and within the fifteen (15) minutes total time interval.

The cast distance shall comply with specification requirements.

Maximum residual snow left on the pavement must not exceed two (2) inches.

The unit will be road tested to test the grade ability, 22 miles per hour up a 5 per cent grade at a minimum altitude of five thousand (5000) feet.

The unit will be tested for the turning radius as specified in the specification.

CALCULATIONS:

I. Output Capacity: (tons/hour)

1. S: Shear Strength, lb./ft.^{2}

$S = 97.4 + 375\ (N/X)$ lb./ft^2 for W^p = 1 Kg

$112.4 + 1125\ (N/X)$ lb./ft for WP 3Kg

N = Number of drops.
X = Depth of penetration, centimeters.
W_p = Penetrometer drop hammer weight.

NOTE: Up to the maximum of 400 pounds per square foot shear strength will be used in making all calculations.

2. Δt: Time interval, seconds.

Convert the running time from minutes - seconds to seconds and determine the time interval for each section.

3. V: Volume of snow removed, feet^3

$$V = \frac{D\ (avg)\ WL}{144}$$

D (avg) = Average depth of cut of snow (left side and right side), inches.

W = Width of cut, inches.

L = Length of section run, feet.

144 = Conversion: inches^2 to feet^2

4. γ : Density of snow lb./ft^3

$$= \frac{(W_t - W_{tube})\ (0.0022046)}{V_t}$$

W_t = Weight of snow sample (average), grams.

W_{tube} = Tare weight of the tube, grams.

0.0022046 = Conversion: grams to pounds.

V_t = Volume of snow in the tube, cubic feet

$$= \frac{(1728 \pi D_t^2)\, D_s}{4}$$

1728 = Conversion: cubic inches to cubic feet

D_t = Diameter of the inside of the tube

D_s = Depth of snow sample

5. Q_C: Output, corrected for shear strength, tons per hour

$$Q_C = \frac{(V\, \gamma\, \tau)/ (2000)}{(\Delta\, t)/ (3600)}$$

2000 = Conversion pounds to tons
3600 = Conversion:seconds to hours

τ = 1.1 - 0.001S = Shear Strength correction

$$Q_C = \frac{1.8\, V\, \gamma}{\Delta\, t\, \gamma}$$

6. **Cast Distance (Feet):**

1) From the vertical centerline of the unit, top of the cutting reel, horizontally to the center of maximum deposit at specification rated capacity, not less than 40 feet.

2) From the vertical centerline of the unit, top of the cutting reel, horizontally to the center of maximum deposit not less than 100 feet. (may be at less than full output)